WHAT IS CLAIMED IS:

1. A color imager formed in, the imager comprising:

a first semiconductor material of a first conductivity type, the first semiconductor material having a first semiconductor region, a second semiconductor region, and a third semiconductor region;

an overlying second semiconductor material of a second conductivity type, the second semiconductor material having a fourth semiconductor region that contacts the first semiconductor region, a fifth semiconductor region that contacts the second semiconductor region, and a sixth semiconductor region that contacts the third semiconductor region;

a first depletion region formed across a first pn junction of the first and fourth semiconductor regions;

a second depletion region formed across a second pn junction of second and fifth semiconductor regions;

a third depletion region formed across a third pn junction of the third and sixth semiconductor regions; and

a layer of isolation material formed on the fourth, fifth, and sixth semiconductor regions.

2. The color imager of claim 1 and further comprising a layer of metal formed over the layer of isolation material, the metal layer including a first opening lying vertically over the first and fourth semiconductor regions, a second opening lying vertically over the second and fifth semiconductor regions, and a third opening lying vertically over the third and sixth semiconductor regions.

3. The color imager of claim 2 wherein the first, second, and third openings have different widths.

4. The color imager of claim 2 wherein the first opening has a first width approximately equal to a first wavelength of light, the second opening that has a second width approximately equal to a second wavelength of light, and the third opening that has a third width approximately equal to a third wavelength of light, the first, second, and third widths being different.

5. The color imager of claim 4 wherein the first wavelength of light is red light, the second wavelength of light is green light, and the third wavelength of light is blue light.

6. The color imager of claim 3 wherein the first, second, and third pn junctions lie in a same plane.

7. The color imager of claim 3 wherein the first, second, and third pn junctions lie in different substantially parallel planes.

8. The color imager of claim 7 wherein the first pn junction lies below the second pn junction, and the third pn junction lies above the second pn junction.

9. A method of operating a color imager, the color imager including:

a first semiconductor material of a first conductivity type, the first semiconductor material having a first semiconductor region, a second semiconductor region, and a third semiconductor region;

an overlying second semiconductor material of a second conductivity type, the second semiconductor material having a fourth semiconductor region that contacts the first semiconductor region, a

fifth semiconductor region that contacts the second semiconductor region, and a sixth semiconductor region that contacts the third semiconductor region;

a first depletion region formed across a first pn junction of the first and fourth semiconductor regions;

a second depletion region formed across a second pn junction of second and fifth semiconductor regions;

a third depletion region formed across a third pn junction of the third and sixth semiconductor regions;

a layer of isolation material formed on the fourth, fifth, and sixth semiconductor regions; and

a layer of metal formed over the layer of isolation material, the metal layer including a first opening lying vertically over the first and fourth semiconductor regions, a second opening lying vertically over the second and fifth semiconductor regions, and a third opening lying vertically over the third and sixth semiconductor regions, the method comprising the steps of:

placing a reset voltage on the fourth, fifth, and sixth regions;

exposing the fourth, fifth, and sixth regions to electromagnetic radiation for an integration period after the reset voltage has been placed on the fourth, fifth, and sixth regions;

determining a first number of electrons collected by the fourth region after the integration period, a second number of electrons collected by the fifth region after the integration period, and a third number of electrons collected by the sixth region after the integration period.

10. The method of claim 9 and further comprising the step of defining a number of electrons of a first color to be equal to the third number of electrons.

11. The method of claim 10 and further comprising the step of defining a number of electrons of a second color to be equal to the second number of electrons less the third number of electrons.

12. The method of claim 11 and further comprising the step of defining a number of electrons of a third color to be equal to the first number of electrons less the second number of electrons.

13. The method of claim 11 wherein the first, second, and third openings have different widths.

14. The method of claim 11 wherein the first opening has a first width approximately equal to a first wavelength of light, the second opening that has a second width approximately equal to a second wavelength of light, and the third opening that has a third width approximately equal to a third wavelength of light, the first, second, and third widths being different.

15. The method of claim 14 wherein the first wavelength of light is red light, the second wavelength of light is green light, and the third wavelength of light is blue light.

16. A method of forming a color imager in a first semiconductor region of a first conductivity type, the method comprising the steps of:

forming a second semiconductor region of a second conductivity type over the first semiconductor region;

forming a layer of metal over the second semiconductor region;

etching the layer of metal to form a plurality of openings in the layer of metal, the plurality of openings including a first opening that vertically lies over a first pn junction, a second opening that vertically lies over a second pn junction, and a third opening that vertically lies over a third pn junction.

17. The method of claim 16 wherein the first, second, and third openings have different widths.

18. The method of claim 16 wherein the first opening has a first width approximately equal to a first wavelength of light, the second opening that has a second width approximately equal to a second wavelength of light, and the third opening that has a third width approximately equal to a third wavelength of light, the first, second, and third widths being different.

19. The method of claim 18 wherein the first wavelength of light is red light, the second wavelength of light is green light, and the third wavelength of light is blue light.